

Free case study on understanding research methods in education

[Sociology](#), [Community](#)



Introduction

Educational research is undertaken to generate knowledge. Its five objectives are “ exploration” “ description,” “ explanation,” “ prediction,” and “ influence” (Johnson & Christensen, nd). Among the many areas of educational research are quantitative research, qualitative research, mixed methods, and action research. These four areas will be discussed in this paper as well as the research process, and specific applications of these methodologies.

The Research Process

There are seven basic steps involved in conducting a research. These are (1) identifying the research problem, (2) review of literature, (3) specifying a purposes, (4) developing research questions, (5) collecting data, (6) analysis and interpretation of data, and (7) reporting the research finding. Regardless whether the approach is quantitative, qualitative, or mixed methods, all these steps need to be present for the study to be valid, accurate, and reliable.

The research problem pertains to a topic that can be studied. It has to be an issue, a general concern, or even a controversy that is broad enough to be a subject of study, such as adult literacy. It is an issue which can be studied from many different angles. The second step, the review of literature, is crucial in any study. An extensive review of existing literature from many different sources such as books, journals, newspapers, and even electronic sources , is an indication of how diligent the researcher has been in doing his/her homework. In looking through the literature, the researcher would be

able to identify the research gaps that may be filled in by the researchers' current study. It provides him/her an opportunity to make a valid contribution to the body of knowledge. The literature review likewise makes the researcher build on what has already been done.

Specifying a purpose and developing research questions are the steps that enable the researcher to identify the boundaries of the study. The direction of the study is clearly laid out in the statement of purpose. The research questions act as a guide on the specifics of the study. The focus of each research question translates into the major sections of the written research report. The questions also dictate the kind of methods that will be carried out to collect data.

Data-collection methods depend on the kind of research that is undertaken. Data may come from primary sources or secondary sources. Interviews, surveys, participant-observation, experiments, generate primary information while secondary sources include books, journals, electronic sources, and databases of panel surveys.

The analysis of gathered information would depend on the research methodology chosen. Quantitative studies require statistical analysis while qualitative methodologies utilize data analysis. In reporting the research results, quantitative studies would have tables and graphs to present their findings. The reports of qualitative research would be predominantly in narrative form but may also include graphs and images. Mixed methods, as the name implies, would have the narrative, figures, and images.

Kinds of Research

This section shall elaborate further the strengths of each of the four major research methodologies. According to Johnson & Christensen (2010), quantitative research is undertaken by researchers who try to be as neutral as they can and study the phenomenon “ from a distance” and in their experiments they use random sampling to ensure that bias is maintained at a minimum level (p. 36). A requisite of quantitative studies is the use of variables which may either be independent, control, moderating, or dependent (Schreiber 2012). The hypothesis of this form of research revolves around the relationships between the variables. Statistical analysis such as ANOVA, t-test, are regression analysis are necessary to be able to generate results. Matveev (2002) enumerates the advantages of quantitative methods which include “ high levels of reliability of gathered data due to controlled observations, laboratory experiments, mass surveys” (p. 60). Johnson & Christensen (2010) describes qualitative researchers as operating in the assumption that “ reality is a social construct” therefore there is a need to “ get close to their object of study” (p. 36). The methods used in qualitative research are participant observation, ethnography, and case study. The main advantage of this methodology is that it allows the researcher to probe deeper into an issue or a phenomenon. Case studies for example look into the processes taking place within organizations or groups. The advantage of using the mixed methods approach is that it takes advantage of the strengths of both the quantitative and qualitative approaches. According to Creswell (2003) this method usually starts by carrying out a “ broad survey to generalize results to a population” (p. 21).

The second phase then becomes qualitative as the researcher probes deeper about the issue by conducting “ open-ended questions to collect detailed views” (p. 21) from the participants.

Action research also combines qualitative and quantitative methods. It is different from the mixed methods because here, the researcher is part of the organization or group being studied. The main advantage is that the researcher is already knowledgeable about the dynamics of the group and would be able to probe deeper about particular issues.

Application of Methodologies

This researcher is interested in the adult literacy. The method selected for quantitative study is survey research. Before the survey is launched, researcher has come up with a hypothesis and a set of research questions. The close-ended questions that shall be included in the questionnaire shall be written in the language of the group that will be surveyed. A test of the survey instrument will first be done to make sure that potential problems are addressed. Random sampling will be used, thus researcher will survey every third household in the target sample. After interviewing the respondents, the data from the questionnaires will be coded and subjected to statistical analysis. This researcher will use regression analysis generated by Stata or SPSS.

When conducting a qualitative study, this researcher chooses case study method. After identifying the objects of study (in this case, two communities), the researcher prepares an interview guide based on the research questions. Then semi-structured interviews will be undertaken

among the identified key informants. Focus-group discussions will also be carried out to get more information and also to better observe the dynamics of adult learners when they are participating in an activity.

References

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 2nd edition. California: Sage Publications.

Johnson, R. B., & Christensen, L. (n/s). *Introduction to Educational Research*. University of South Alabama. Retrieved May 2011, from <http://www.southalabama.edu/coe/bset/johnson/lectures/lec1.htm>

Johnson, R. B., & Christensen, L. (n/s). *Quantitative, Qualitative, and Mixed Research*. University of South Alabama. Retrieved May 2011, from <http://www.southalabama.edu/coe/bset/johnson/lectures/lec2.htm>

Matveev, A. V. (2002). *The advantages of employing quantitative and qualitative methods in intercultural research: practical implications from the study of the perceptions of intercultural communication competence by American and Russian Managers*. Russian Communication Association. Retrieved May 2011, from http://www.russcomm.ru/eng/rca_biblio/m/matveev01_eng.shtml

Schreiber, D. A. (2012). *MAE 504 Research Methods in Education* [PDF document].